

REMARKS

Applicants appreciate the consideration shown by the Office as evidenced by the Final Office Action mailed on June 20, 2007. In that Office Action, the Examiner rejected claims 48-56. Claims 1-56 remain pending in this application, with claims 1-47 currently withdrawn from consideration on the basis of a restriction requirement. Applicants respectfully request favorable reconsideration in light of the following remarks.

1. Claim Rejections--Section 112

Claims 48-56 were rejected under 35 U.S.C. 112, first paragraph. The Examiner stated that the lower limit recited in claim 48 (about 5 volume percent) lacks support in the application as filed. Applicants respectfully disagree, because an example is set forth in the originally filed specification (including Figure 1) that demonstrates material having 5 volume percent particle loading. However, in an effort to speed prosecution, Applicants have elected to amend claim 48 to recite a particle loading range that has clear and explicit support in the specification: from about 10 volume percent to about 30 volume percent. Applicants respectfully submit that claim 48 complies with the written description requirement of Section 112, first paragraph. Reconsideration and removal of this rejection is thus respectfully requested.

2. Claim Rejections--Sections 102/103

Claims 48 and 53-56 were rejected under 35 U.S.C 102(b) as being anticipated by Benn et al. (US 5,006,163; "Benn"). Applicants respectfully traverse this rejection.

As a preliminary matter, it appears that the Examiner may have intended for this rejection to be under section 103 rather than 102(b). The Examiner admits that Benn does not teach the limitation related to the volume percent of particles in the finished nanocomposite and further states that the invention recited in Applicants' claims would be obvious to one of ordinary skill in the art. For this reason, Applicants have treated the rejection as having been provided under section 103.

The Office Action at the top of Page 4 states: "The claims and Benn differ in that Benn is silent with respect to the volume percent of particles in the finished nanocomposite." On Page 7, the Office Action states:

Applicants argue that Benn teaches 2.5 to 4 volume percent nanoparticles while applicants' claims recite 5 to 30 volume percent nanoparticles. The Examiner is not persuaded. In making this argument applicants have not cited any passages in Benn that supports applicants' arguments nor could the Examiner find any passage in Benn in support of applicants' argument.

Applicants respectfully reiterate the argument that Benn teaches the 2.5 to 4 volume percent nanoparticle loading range. In column 3, Benn describes an alloy body comprising an aggregation of elongated metallic crystals (that is, grains) which have a gamma prime phase dispersed therein; these crystals also have nano-sized oxide particles dispersed throughout the crystals. Col. 3, lines 27-36. **Moreover, it is further disclosed that the oxide particles make up 2.5 - 4 volume percent of these crystals. Column 3, lines 61-62.**

Based on the above, it is clear that Benn teaches a particle load that is markedly smaller than that recited in the instant claims. Claim 48 as amended recites a range of loading that is from about 2.5 to about 12 times the amount of particle loading described in Benn. The low loading of particles in Benn appears to allow grain elongation to occur in the direction of working so that the final grain structure has Benn's requisite characteristic **high aspect ratio** (greater than 7; see col. 4 lines 12-28). Applicants respectfully submit that one of ordinary skill in the art, reading Benn, would not be motivated to use a higher particle loading because Benn defines the acceptable loading range of 2.5 - 4 volume percent to achieve the desired elongated grain structure described therein. Certainly there is no suggestion that particle loading can or should be significantly higher (up to about 12 times higher) as it is recited to be in the present application.

As Benn fails to teach, suggest, or disclose all elements of claims 48 and 53-56, Applicants respectfully submit that these claims are patentably distinct from the Benn reference. Reconsideration is respectfully requested.

Claims 49-52 were rejected under 35 U.S.C. 103(a) as being unpatentable over Benn in view of allegedly admitted known prior art set forth in Applicants' specification. Applicants respectfully traverse this rejection. Each of these claims depends from claim 48, which is believed to be allowable over the applied references for reasons described above.

Applicants respectfully submit that claims 49-52 are thus allowable due to their dependency from an allowable base claim.

3. Conclusion

In light of the remarks and amendments presented herein, Applicants believe that this serves as a complete response to the subject Office Action. If, however, any issues remain unresolved, the Examiner is invited to telephone the undersigned at the number provided below.

Respectfully submitted,

/Paul J. DiConza/

Paul J. DiConza

Reg. No. 48,418

General Electric Company

Building K1, Room 3A60

Telephone: (518) 387-6131

Niskayuna, New York
Tuesday, August 28, 2007